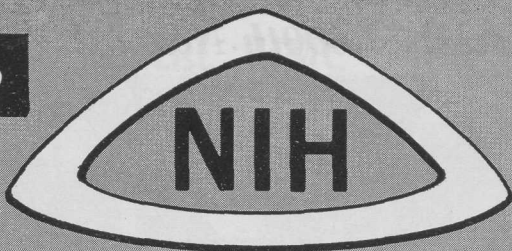


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Record

U. S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

March 13, 1973
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NATIONAL INSTITUTES OF HEALTH

Acupuncture 'Deserves Serious Scientific Study' Conferees at NIH Agree

The first national acupuncture research conference, held at NIH Feb. 28 and March 1, was attended by some one hundred physicians, scientists, and psychologists.

It was sponsored by the National Institute of General Medical Sciences which is responsible for coordinating NIH support for acupuncture studies.

Chairman of the conference was Dr. John J. Bonica, professor and chairman, Department of Anesthesiology at the University of Washington School of Medicine.

Dr. Bonica also heads the NIH *ad hoc* Committee on Acupuncture which recommended that the conference be held to enable physicians and scientists to report results of studies of the effectiveness of acupuncture treatment.

It was brought out at the meeting that acupuncture in this country is used in a limited way to produce surgical and dental anesthesia and to treat pain.

Although few studies of the side effects of acupuncture have been conducted, evidence indicates changes in body functions and dangers such as the use of acupuncture in certain meridians in pregnant women which might cause abortion.

Dr. Bonica said that better designed and well controlled studies are necessary to determine how acupuncture works or compares with drug induced anesthesia or established methods of controlling pain.

"Since it has been established that pain is itself a complex phe-

(See ACUPUNCTURE, Page 4)

Dr. Wallace Rowe to Give Mider Lecture on March 14

Dr. Wallace P. Rowe, chief, Laboratory of Viral Diseases, NIAID, will present the fifth annual G. Burroughs Mider Lecture tomorrow, Wednesday, March 14, at 8:15 p.m. in the Jack Masur Auditorium.

He will speak on The Genetic Factors in the Transmission and Expression of Murine Leukemia Virus.

S-T-E-P

Continuing Education Program Features 7 Courses for Grants, Contracts Staff

For the first time in its 10-year history, the Staff Training-Extramural Program (STEP) Committee will initiate a new program for approximately one hundred administrative and management grants and contract personnel.

This year's Continuing Education Program features seven short courses, called modules. The faculty will be drawn from NIH staff and from outside sources to include university research administrators, management consultants, and psychologists.



Dr. Schwartz praised the 17-member STEP Committee for its enthusiasm and commitment.

Famous Scientists Speak At NIGMS Anniversary Symposium on March 21

For its Tenth Anniversary, the National Institute of General Medical Sciences is sponsoring a symposium in the Jack Masur Auditorium, on Wednesday, March 21, from 2 to 4 p.m. It is open to the NIH staff and visitors.

Dr. James A. Shannon, professor and special assistant to the president, Rockefeller University, will open the program.

Scientists who will speak are:
Dr. Philip Handler, president, National Academy of Sciences—Why a basic science Institute at NIH?

Dr. Joshua Lederberg, professor of genetics, Stanford University—The scientific study of life, and the present and future condition of man.

Dr. Norman Anderson, director, Molecular Anatomy Program, Oak Ridge National Laboratory—Translation of biological knowledge to the clinical sciences.

Dr. Lewis Thomas, dean, School of Medicine, Yale U.—Notes of a biology-watcher: the connections between science and medicine.

See Anniversary Feature, pp. 5-8.

Dr. Sherman Given Top Career Award By Service League

Dr. John F. Sherman, NIH Acting Director, has been named recipient of the 1973 Career Service Award for Sustained Excellence presented by the National Civil Service League.

Dr. Sherman is one of 10 Federal employees to be honored this year by the League—a nonpartisan, nonprofit citizen organization founded in 1881 to promote efficiency in Federal, state, and local government.

The League presents this award to career public employees for their significant contributions; to recognize excellence in government service; to promote public appreciation of quality in government, and to encourage able young people to build government careers.

Dr. Sherman's nomination was based on his activities when he was Deputy Director of NIH.

He was cited for his "... out-



In 1971, Dr. Sherman received the DHEW Distinguished Service Award, and this year he was presented with the HEW Secretary's Special Citation Award.

standing achievements in the development and effective administration of programs of biomedical research and education at the NIH."

The citation also pointed out that "he is acknowledged throughout government to be a leading figure in the interface area between government service policy

(See DR. SHERMAN, Page 10)

"When STEP was created, the emphasis was on meeting the training needs of the professional—the health scientist administrator," explained Dr. Samuel Schwartz, chairman of the STEP Committee and the National Eye Institute's deputy associate director for Extramural and Collaborative Programs.

"Since then, our interests have broadened considerably to encompass both the professional and management staff in grants and contracts. We are launching a program with training opportunities for greater numbers and different types of people than even before."

According to Dr. Schwartz, "The STEP Committee tried to select the most relevant topics possible. We surveyed the extramural program with a questionnaire, and the 85 percent response we received was tremendously encouraging."

Beginning in April and extending over a 9-month period, the modules will provide training in these areas:

- NIH Grantee-Contractor Institutional Relationships (Apr. 4-6)

- Committee Review and Management (May 7-8)

- Program Analysis, Program Planning, and Program Evaluation as a Scientific Management Tool (June 4-6)

- Management Principles and Techniques (July 13, 23-27, Sept. 6-7)

- Legal Basis of Contracts and Grants (Oct. 6-10)

- NIH Health Manpower Program (Nov. 1-2)

The schedule allows an employee to attend as many modules as he wishes, space permitting.

Almost 500 professional and

(See STEP, Page 4)

the NIH Record

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Use of Parking Permit Is Strictly Regulated

"The cooperation of all employees has contributed to the success of the parking program," according to an NIH parking official. However, he stressed the need for stricter compliance with regulations.

A car with an NIH parking permit should *not* be parked in a space reserved for visitors, even when the employee is using his vehicle on official business to go to a building other than his own.

In this case, the employee should obtain a green parking permit from his administrative officer and park in a designated area for holders of green permits.

This green parking permit should be displayed on the dashboard of the employee's automobile so that it can be easily observed by an officer.

Those using an employee's car on the reservation must adhere to all parking regulations. A violation notice would be sent to the employee to whom the parking permit was issued, and he would be responsible.

When leaving NIH employment, selling, or disposing of a car registered here, the NIH Parking Office should be notified immediately.

The parking decal should also be scraped from the windshield. Otherwise, it may result in violation notices to the previous owner.

Also, if one employee purchases an automobile from another the Parking Office should be notified or the vehicle will be considered improperly registered and subject to violation notice.



At her retirement luncheon, Gladys M. Phillips, who has been with NHLI—in the Grants Processing Section—for 16 of her 17 years at NIH, is congratulated by Dr. J. Franklin Yeager (l), former NHLI associate director, and Dr. Jerome G. Green, director, Division of Extramural Affairs. Many co-workers, friends and former colleagues were also present.

Woman's Golfing Season Opens In May; New Members Needed

The Woman's Golf Association of NIH is soliciting new members for its upcoming season which runs from May through September.

Individuals at all levels of skill—flights A, B, and C—are welcome to join. Team applications are preferred.

Members pay their own green fees and a modest membership charge.

For further information, call Lois Duggan, Ext. 62670, or Dr. Ruth Dunlap, Ext. 64289.

CC Admits 4,000th Normal Volunteer



Dr. Thomas C. Chalmers, CC Director (l), and Mr. Nye greet Frank James as he arrives at the Clinical Center.

Frank B. James, the Clinical Center's 4,000th normal volunteer patient, was admitted on Monday, Feb. 26.

Like the CC's first volunteer 20 years ago, Frank, a native of Elgin, Ill., is a member of the Church of the Brethren.

His 3 months at NIH is only part of the time he has set aside for service to mankind. Previously, he was an orderly in a nursing home in western Maryland.

CC volunteers, generally recruited through universities, church organizations, and civic groups, play a vital role in NIH intramural clinical research, according to Delbert L. Nye, chief, volunteer program.

Information about healthy individuals helps to measure progress against illness, he added.

Last year, over 250 volunteer patients spent an average of 90 days each in the CC. In addition, over 6,200 outpatient visits were made by other volunteers whose part in a study did not require full time hospitalization.

The studies in which volunteers participate vary from research on the common cold to detailed measurements of normal calcium uptake that may shed light on certain cancers.

Frank is scheduled to participate in an NHLI study conducted by Dr. Robert Levy.

The study is designed to determine how diet and drugs affect blood fats in healthy individuals to aid investigators in learning more about circulatory disorders.

In addition, Frank, like most CC volunteers, is taking part in a career development program.

Under the guidance of NCI's Dr. Paul Chretien and visiting scientist Dr. Claude Potvin from Canada, Frank is helping to measure white cell immune strength in blood samples from healthy people as well as cancer patients.

Volunteers who are not interested in laboratory career assignments are offered first hand experiences in related fields such as hospital administration or information, or a craft or trade.

Apply for UMC Now; Deadline Is March 20

Applications are now being accepted for the spring quarter of the NIH Upward Mobility College. Deadline for applications is March 20.

UMC maintains an open admissions policy for eligible employees at GS 7 and below or wage grade equivalents.

Requirements include a high school diploma or equivalent, and employment with the Federal Government for at least one year.

Employees enrolling in the program can earn academic credit which may be applied toward an associate or baccalaureate degree.

Supportive services are provided by NIH such as pre-college courses, tutoring, counseling, reading skills, and books.

Students attending UMC are excused from work for between one-half and two-thirds of their class time.

For further information, contact the NIH-UMC program coordinator, Dr. Mel E. Williams, Training and Education Branch, OPM, Bldg. 31, Room B2-B32, or call Ext. 62146.

Applications are also being accepted for the summer term.

FAES Chamber Music Concert Features Walter Klien, Pianist

The fifth concert in the 1972-73 Chamber Music Series sponsored by the Foundation for Advanced Education in the Sciences will be held Sunday, March 18 at 4 p.m. in the Jack Masur Auditorium.

The Austrian pianist, Walter Klien, will present a program to include music by Brahms, Schoenberg, Ravel and Mozart.

Admission is by ticket only.

Dr. Young Develops List Of Drugs That Disrupt Many Medical Tests

A computerized list of drugs that interfere with medical tests was recently developed by a Clinical Center scientist—Dr. Donald Young, chief, Clinical Pathology Department's Clinical Chemistry Section.

The list, composed of over 17,000 drugs, will help physicians rapidly interpret laboratory data and could prevent wrong diagnoses, Dr. Young said.

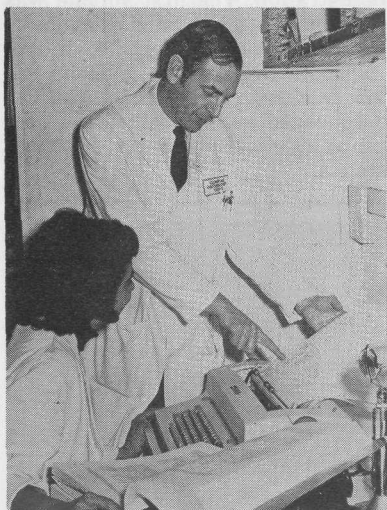
He explained that, as a result of advances in medicine, patients routinely take more medications and receive more diagnostic tests than ever before.

At the CC, for instance, some patients receive as many as 10 drugs simultaneously and often 10 or 20 laboratory tests are requested at the same time.

Many of the drugs change body functions enough to alter results of the tests which measure body fluid constituents.

Even non-prescription drugs taken before blood or urine tests may change the results, Dr. Young said. Aspirin, for instance, can make results of tests for glucose (blood sugar) appear high and could lead to a false diagnosis of diabetes.

L-dopa, a prescription drug used for Parkinson's disease, may have



Dr. Young and medical technologist Lucy Pestaner discuss results of a computer search for the effects of a drug. Because of continuous updating, the registry which started out with 8,500 drugs has doubled its size.

the same effect. Another drug, chlorpromazine, an ingredient in certain tranquilizers, has made pregnancy tests falsely positive, he further explained.

He added that while most physicians know the major side effects of most drugs, it is difficult to remember all the minor ways that even common drugs can change

UMC Goals Given at Student Assembly; Sherman Calls Campus School Essential



Mr. Sangster (far left) praised the students who are attending UMC and holding down full time jobs at NIH. Others at the speakers' table are (l to r) Dr. Sherman, Dr. Williams, and Dr. Taylor, who termed education a necessity in today's society.

"There seemed to be no doubt that Secretary Richardson and Dr. Marston were committed to the whole concept of Upward Mobility College and this indeed remains a commitment to the management of NIH and to the Department."

Dr. John F. Sherman, NIH Acting Director, speaking at an Upward Mobility College student assembly held March 2, in the Jack Masur Auditorium, further termed NIH's commitment as "very definitely there."

The assembly, sponsored by the NIH-FCC (Federal City College)-UMC was called to discuss the present and future plans for UMC at NIH.

Other guest speakers included John Sangster, Director, Office of

the tests.

The registry is available in journal form to patient care physicians and laboratory physicians throughout the country.

Originally developed for use in the CC Clinical Pathology Department, the registry began with only 8,500 drugs.

Continuous updating through information from the medical literature, recent findings by Dr. Young and colleagues, and cooperation by drug companies and independent investigators have doubled its size.

The list was published in a recent issue of *Clinical Chemistry*; copies are available through the American Association of Clinical Chemists, P.O. Box 15053, Winston-Salem, N.C. 27103.

At the present time, access to the computerized registry is limited to the CC staff. However, physicians may request a computer search by contacting the Clinical Pathology Department. Later on, the registry will be available through computer terminals at medical centers throughout the country.

Personnel Management, and Dr. Andress Taylor, Director, Experimental Programs-FCC.

In his talk before the assembly, Dr. Sherman referred to HEW as "the people's department—the largest domestic department in the whole Federal Government . . . and people oriented." He described the college on the campus "as essential and major part of one of the people-oriented activities."

He also termed NIH as "a very exciting place to be in and to work . . . particularly in the context of a Government organization."

Dr. Sherman pointed out the importance of an examination of all EEO aspects at NIH, including UMC and other educational activities. He called UMC "more representative of all the groups at NIH."

Dr. Sherman also suggested a "reexamination of what NIH is doing for UMC" and stated that "the challenge remained how much more we can do."

He explained that the prime justification for locating UMC at NIH has to do in part with meeting personnel needs and finding capable employees to stay at NIH.

Mr. Sangster, a member of the UMC Advisory Committee, lauded the dedication of UMC students who are also "holding down a full-time job."

In presenting what he called "reasonable realistic information" concerning UMC, Mr. Sangster said that he hoped the program would produce "about one half of the input talent at NIH."

He discussed UMC's courses, pointing out the need of expanding the college's science program. Mr.

Symposium on Heavy Metals In Environment Held at NIEHS

A symposium on Heavy Metals in the Environment was held March 8-9, at the Governor's Inn in Research Triangle Park, N.C.

It was sponsored by NIEHS. Representatives from universities and Federal agencies attended the meeting.

Sangster explained that most of the students are more interested in administrative positions and in public information. However, he said, NIH has the need for registered nurses.

He also talked about the STRIDE program and the necessity for that program to stress science courses.

Mr. Sangster discussed the increased classroom space that is required for UMC, and said that "some 14 rooms in Bldg. 31 have been set aside . . ."

In an effort to share goals and understand problems, Mr. Sangster advocated a more personalized relationship within UMC's framework. He suggested that the UMC Advisory Committee "discuss with supervisors and intermediate and top management people the goals and values of UMC."

The necessity for an education in a "very complex, highly industrialized society," was stressed by Dr. Taylor.

He stated that now "owning land or a house is not enough. Education is the only natural resource to change or advance . . . status."

Dr. Taylor declared that FCC introduced the democratic process of education for poor people rather than the elite.

He termed the black revolution "not a selfish movement, everyone benefits," and said that there was a 40 percent white participation in the UMC program.

The speakers at the assembly were introduced by Neil French, NIH-FCC-UMC student government chairman. Panel guests included Norma Greene, director, FCC-UMC, Leonard Myers, chairman of FCC's People's Government Association, and Dr. Mel Williams, coordinator, NIH-UMC.

Comm. Officers Separating From Active Duty to Meet

A special meeting for NIH Commissioned Officers who are separating from active duty this June or July will be held Tuesday, March 20, at 2:30 p.m. in the Jack Masur Auditorium.

Officers will be informed of separation procedures, travel entitlements, shipment of household effects, and veteran benefits.

Administrative personnel concerned with these procedures are invited.

NLM's Dr. Wooster 'Pedals' His Wares On 'Caution;' Advocates Cycling Safety

By Ann R. Lindsay

Would you believe—two adults, one six-foot-three 15-year-old boy, 12 bicycles, one tandem, and one tricycle in a single household?

This is the high-gear home in Silver Spring to which Dr. Harold Wooster returns each evening from the National Library of Medicine where he is chief of the Research and Development Branch for the Library's Lister Hill National Center for Biomedical Communications.

Dr. Wooster, whose long-standing affair with bicycling began when he acquired his first bike at the age of 9, addressed the area's cyclists on Saturday, Feb. 24, as a guest on "Caution," a consumer education program of WTOP-TV.

Speaking in his capacity as safety chairman of the Potomac Pedalers Touring Club, he addressed himself particularly to the

found themselves over the border in Yugoslavia, from which they were grateful to return without the need for official intervention.

Dr. Wooster's heartfelt insistence on safe bicycling practices is not entirely academic; like most "pedalers" of experience, he has suffered the indignity, bruises, and assorted damages of bicycling accidents.

His worst, and most recent mishap, he describes as the "classic traffic accident—single vehicle, daylight, and dry road."

Zippering along on his best bike (high-gear) at a heady 35 mph on a road from Damascus last fall, he hit an oil patch and folded. His broken arm sported a cast for the next several months.

He emphasizes, however, that his own absolute insistence on wearing a safety helmet almost certainly prevented what he considers the worst possible kind of injury—damage to the head. "I don't," said Dr. Wooster with emphasis, "want to be a vegetable."

Purchase Bikes Wisely

As for the wise purchase of a bicycle, he recommends following the lead of a friend who has a satisfactory bike—that is, go to a dealer who has proved his value, buy from an established bicycle dealer (not a local whatnot shop), and check with the Better Business Bureau.

Oh, about the tricycle. It is a 15-speed racing tricycle made in England, and Dr. Wooster knows of only one other in the U.S.

He looks forward to testing his tricycling mettle in an English event, a 24-hour time trial for distance.

"At least," Dr. Wooster said thoughtfully, "you can't fall off a trike, even if you fall asleep."

ACUPUNCTURE

(Continued from Page 1)

nomenon involving many factors, including psychological and ethnic influences," Dr. Bonica said, "we must evaluate the effect of this treatment on Americans and its advantages or disadvantages in relation to other traditional forms of treatment used by Western medicine."

"Basic studies are essential and acupuncture deserves serious scientific study. This was the consensus at the acupuncture meeting. The NIH should encourage and support very good, well designed research projects in acupuncture."

STEP

(Continued from Page 1)

management staff members are eligible to apply for the Continuing Education Program. Additional information can be obtained from Clifford F. Johnson, Bldg. 1, Rm. 314, Ext. 64777.

The STEP Committee was guided by "the recognition of a need in extramural programs for in-house training, especially pertaining to the development of managerial skills," Dr. Schwartz noted.

In addition, "the end result of such a program," he said, "would be the development of a 'feel' for the impact of NIH programs on grantee-contractor institutions. This type of awareness puts the staff in a better position to make scientific and management decisions related to the grant and contract programs."

Now Includes 5 Programs

Since its creation, STEP has grown to include five major programs. One of the earliest, the Extramural Forum, features topics of special interest to extramural grant and contract staff although the lectures are open to everyone.

The 1973 series began last week with Dr. Thomas E. Malone's presentation, ADERT After Six Months: Overview of Problems and Issues. Dr. Malone is NIH Associate Director for Extramural Research and Training.

The next Extramural Forum will take place April 19 at 1 p.m. in Wilson Hall, Bldg. 1, when Dr. Ashley Miller will speak on the Medical Research Council of Great Britain.

STEP also sponsors a 2-day orientation seminar each fall to familiarize between 25 and 30 new



Dr. Fernando Villarroel has been appointed to the Office of Program Analysis and Scientific Communications, NIAMDD. He will coordinate the research and development contracts of the Artificial Kidney-Chronic Uremia Program. Dr. Villarroel comes to NIH from the U.S. Army's Harry Diamond Laboratories.

direct-hire employees with the mission and policies of NIH.

A monthly seminar series evolved from the orientation seminar. Five or six topics covered briefly in the orientation seminar are presented in-depth one afternoon per month over a period of 5 or 6 months to the same 25 or 30 new employees.

A fifth STEP project is the publication of an anthology dealing with science policy and science administration. The first volume was published last year, and a second is presently being compiled.

The STEP Committee is an advisory arm to Dr. Malone, who has encouraged and supported the program throughout its planning stages.



Dr. Wooster sports his racing shirt and trusty helmet.

need for well-informed purchase and maintenance of bicycles, safe riding practices, and the value of bicycle paths—a current issue in local and state jurisdictions of the Washington metropolitan area.

Dr. Wooster's first "bicycle manhood test" was in the annual Century Run in 1944 (now sponsored by the League of American Wheelmen).

His was a volunteer effort, engendered, perhaps, partly by his innocence—a research assistant at the University of Chicago. He had read of this event, but had never attempted to do 100 miles in 12 hours or less. He finished in 11½ hours.

Tribute to Marriage

His next Century Run, in 1970, was made on a tandem bike with his wife Alice. They finished in 11½ hours—a tribute, claims Dr. Wooster, to the invigorating and exhilarating effects of marriage.

Perhaps the high point of Dr. Wooster's biking career was a two-week tour of Austria, when he and his wife pedaled vigorously through the beautiful province of Styria—so vigorously, in fact, that they



Graduation ceremonies were recently held for the eighth class of the U.S. Special Police, attended by (seated, l to r): Ralph A. Stork, chief, Protection and Parking Branch, OAS; Capt. Richard F. Jones, Guard Force commander; Willard E. Vincent, assistant director for Protection and Safety Management, OAS; Ruth Bates Harris, Director, NASA EEO, guest speaker; William C. Wright, training officer, and Pfc. Harry Levine, class representative. Graduates are (standing, l to r): Pfc. Phillip G. Muise; Pfc. William J. Lyons; Inspector William F. Coleman, NIH Fire Department; Pfc. Fred A. Cephas; Inspector Alvie L. Ridgely, NIH-FD; Cpl. Gaines O. Loyd, high scholastic award winner; Pfc. Henry L. Carter; Pfc. Frank R. Triplett; Sgt. Leo H. Williams, and Lt. Charles R. Pyles.

National Institute of General Medical Sciences

Tenth Anniversary Feature

New Program Designed To Gain Understanding Of All Cell Functions

In an effort to elucidate the cellular basis of disease, NIGMS organized a new research grants program in this area in March 1972.

The Institute's objectives are to gain a better understanding of the complex structure and function of human cells and their component parts. The long-term expectation is that such research will make major contributions to the diagnosis, treatment, and prevention of all disease forms.

Great Strides Made

Development of American biomedical research over the past 25 years has led to a succession of outstanding discoveries now beginning to culminate in a whole new body of knowledge.

Typical are the great strides made in understanding the biochemical basis of human inheritance, the cell's diverse metabolic pathways, and the structure of a variety of cell organelles unknown 25 years ago.

In all of this, NIGMS grantees have contributed significantly to the knowledge of the structure and function of such discrete units

(See CELL FUNCTIONS, Page 8)

Nobel Prize Laureates Receive NIGMS Grants

During the past decade, NIGMS has had an impressive record in the support of Nobel Prize winners.

NIGMS grantees who have been named Nobel Laureates are:

Dr. James D. Watson (1962), for his co-discovery of the DNA "double helix"—the double helical configuration of deoxyribonucleic acid, the "master molecule of life." Dr. Watson's research has been supported by NIGMS and its antecedent organizations since 1958.

Dr. Konrad Bloch (1964), for his research in the synthesis of fatty acids and cholesterol. Dr. Bloch was supported by NIGMS or its predecessors from 1951-56 and from 1961-71.

Dr. Robert Woodward (1965), an authority on organic chemistry, for his accomplishments in synthesizing chlorophyll, cortisone, colchicine, strychnine, magnamycin, and other compounds. Dr. Woodward has been receiving NIGMS support since 1951.

(See LAUREATES, Page 6)

Need for Support of Fundamental, Noncategorical Research Leads to Establishment of New Institute

The National Institute of General Medical Sciences clearly bears the impress of the five men most responsible for its origin and development.

NIGMS originated in the late fifties when Dr. James A. Shannon was NIH Director. Dr. Shannon, now professor of biomedical sciences at Rockefeller University, talked recently about the circumstances that led to setting up the administrative unit now known as NIGMS.

"The main impetus," he said, "was the need for scientific training. The country at that time had been jolted by the fact that, scientifically, it was not first rate, and there was a sudden push to train scientists not only in the physical sciences, but in the biomedical as well.

"About that time, I felt there should be a unit at NIH whose mission was to support fundamental, noncategorical research.

"Besides the training and the basic science programs, there were several other grant programs that didn't quite fit into the categorical institutes. So, we brought them all together into the Division of General Medical Sciences."

Division Established

The Division was established in July 1958 with Dr. G. Halsey Hunt as chief.

Looking back, Dr. Hunt—now executive director of the Educational Council for Foreign Medical Graduates—put the Division into perspective.

"Each of the categorical institutes had been established as a result of the desires of members of Congress to attack specific illnesses; the establishment of the Division of General Medical Sciences was based on a professional judgment of the administrators of the NIH and their advisors that there were gaps between the research programs of various institutes which required the new entity," Dr. Hunt said.



Dr. DeWitt Stetten, Jr.

Because of increasing concern for the need to strengthen basic research, the Division was raised to Institute status on Jan. 30, 1963; Dr. Clinton C. Powell, who had been division chief for several months, became the first Director of NIGMS.

Now special assistant to the president for Health Affairs, University of California at Berkeley, Dr. Powell recently described his directorship as "primarily one of consolidating programs at a time when the explosive growth of NIH, particularly its extramural activities, was leveling off and the impact of the Fountain Committee review of NIH programs was being felt—perhaps the first time that NIH faced significant public questioning and criticism.

Programs Consolidated

"But as growth leveled off, funds were still available to pay essentially all approved research and training grants and a large proportion of fellowships.

"Studies on basic genetic mechanisms were in full swing, and I vividly recall the time at the appropriation hearings when Dr. Shannon and I tried to explain the significance of DNA and the 'gen-

(See NEW INSTITUTE, Page 7)



Dr. G. Halsey Hunt

Highlights of Research Support by NIGMS Include DNA Synthesis

The highlights of research supported by the National Institute of General Medical Sciences over the past decade which have particular relevance to the solution of major medical problems include these examples:

■ Synthesis in the test tube of the fully infectious DNA of a virus. This represents an important step in learning how viruses duplicate in cells, and contributes to a better understanding of hereditary material and the multiplication of viruses.

Gene Isolated

■ Isolation for the first time of a gene—giant progress in the eventual understanding and prevention of genetic diseases.

■ Pioneering studies in genetics and molecular biology of bacteriophages, which have led to discoveries about the mechanisms of mutation and the role of DNA as hereditary material. These studies have contributed many of the basic techniques and concepts now used in mammalian virology.

Test Developed

■ Development of a tissue-matching test employing mixed leukocyte cultures which led directly to the first successful bone marrow transplant between non-identical twins.

■ Development of a simple test for an inherited abnormality in the enzyme pseudocholinesterase. This test reduces the surgical risk for patients with a genetic defect which prevents action of a drug commonly used to induce muscle relaxation under anesthesia.

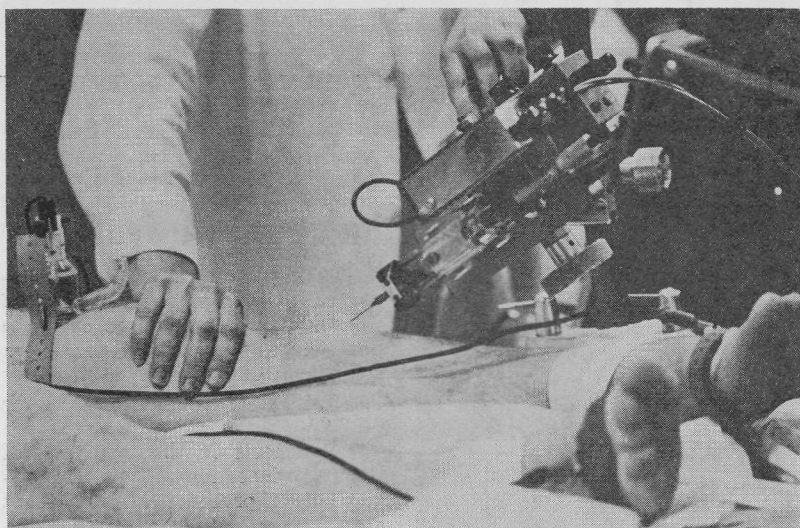
Systems Introduced

■ Research at Massachusetts General Hospital leading to development of computer systems for improved record-keeping, data gathering, and the automated filling of a physician's drug order through the hospital pharmacy. These systems are helping to improve patient care and to reduce administrative work and costs.

■ Development of a fast chemical analyzer called GeMSAEC, the first truly new concept in automated chemical analysis to reach the marketplace in 15 years. GeMSAEC performs in a single operation—with greater accuracy than other instruments and in only 30 seconds

(See HIGHLIGHTS, Page 6)

Trauma Affects 1 of Every 4 Americans; Causes Over 100,000 Deaths Annually



An ultramicroelectrode—a drawn barosilicate glass tube with a tip opening of less than 1/1000th of an inch—is being placed into leg muscle tissue. The device is used to determine intra- and extra-cellular electrical potential differences of sodium and potassium salt balances. This research is one of many NIGMS-supported studies being done in the Trauma Research Center at Parkland Memorial Hospital.

Trauma, the "neglected disease of modern society," which affects one of every four Americans and is responsible for more than 100,000 deaths annually, is a large NIGMS clinical research program.

The Number One killer of persons between the ages of one and 44, it is the fourth leading cause of death for all age groups.

Its outward signs are bleeding, broken bones, burns, and bruises. Less obvious, but more treacherous problems are stress ulcers, infections, fluid imbalances, and disruptions in body chemistry which, days or even weeks after original injury, may still threaten life.

Critically injured patients, arriving in hospitals at all hours, depend on highly skilled medical specialists who must act quickly.

In 1966 NIGMS launched a research support program to study ways of reducing mortality and disability from accidental injury.

Today, less than 7 years later, the program encompasses eight Trauma Research Centers and 30 individual studies ranging from cellular injury and wound infection to computer assessment of the injured patient's status and skin grafting.

Investigators study one aspect of the body's response to injury.

■ At Columbia Presbyterian Medical Center physician-scientists study human energy exchange and changes in body metabolism following severe injury.

■ At the University of Texas Southwestern Medical College, the emphases are on changes in fluid balance, burns, and kidney complications following trauma.

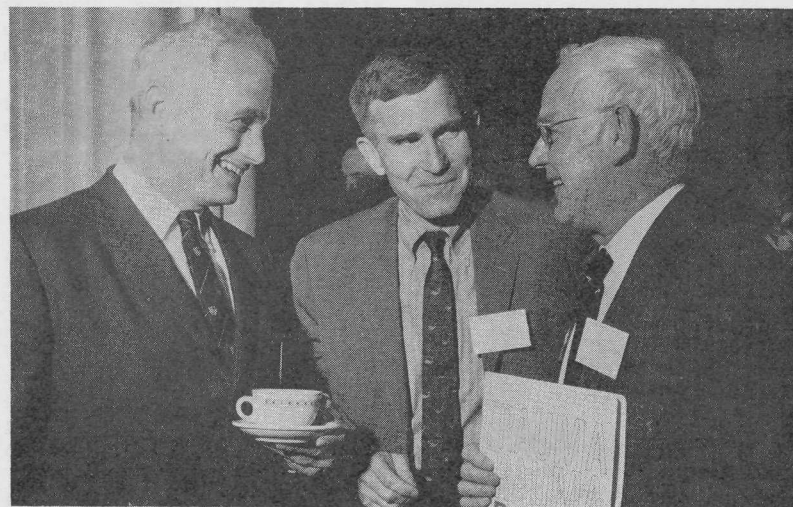
■ At Albany Medical Center, surgeons and biomedical engineers have developed computer and other advanced medical technology to

continuously monitor the critically injured.

■ At San Francisco General Hospital, trauma teams focus on wound healing, circulatory changes, alterations in the blood-clotting mechanism, and changes in the lungs of patients requiring extended mechanical ventilation.

Other NIGMS-supported TRCs are Cincinnati General Hospital; E. J. Meyer Memorial Hospital, Buffalo, N.Y.; University Hospital, Boston University Medical Center, and the University of Mississippi School of Medicine, Jackson.

Last month, directors of these centers, grantees, and NIGMS



Conferring at an International Trauma Symposium sponsored by NIGMS in 1970 are (l to r) Drs. William R. Drucker, University of Virginia School of Medicine; Richard H. Egdahl, director of the NIGMS-supported trauma center at Boston University, and J. Englebert Dunphy, University of California-S.F.

HIGHLIGHTS

(Continued from Page 5)

—one blood test on samples from 15 patients.

■ Introduction of a computerized drug surveillance program to quickly identify adverse drug reactions based upon the experiences of some 14,000 patients in 15 hospitals who were administered drugs.

■ Development and clinical application of sophisticated instrumentation for investigating adverse drug reactions in the fetus, premature babies, and the newborn.

■ Introduction of a broad spectrum of high purity, nationally recognized standard reference materials—including organic as well as inorganic materials—to improve the accuracy and comparability of clinical laboratory analysis.

Presently, some 18 standard reference materials are available from the National Bureau of Standards and are distributed throughout the world.

By using the materials and a referee method developed through cooperation between NBS and 12 participating laboratories, the laboratory error for determining calcium has been reduced from an average 15 percent to less than 2 percent.

■ Elucidation of the sequence of amino acids in the enzyme ribonuclease and the relationship of structure of the active site of this enzyme to its biological function.

■ Development of a new, harmless nuclear technique using radioactive ammonia tracers which go directly to the heart. This method makes it possible for the first time to visualize heart damage by producing videotape images for diagnostic examination by the physician.

consultants met at NIH to discuss neglected areas of research and make recommendations for future trauma program activities.



Dr. Watson was awarded a 1962 Nobel Prize for his co-discovery of the double helical configuration of DNA, the "master molecule of life."

LAUREATES

(Continued from Page 5)

Drs. Robert W. Holley and H. Gobind Khorana (1968), for their independent discoveries concerning the interpretation of the genetic code and its function in protein synthesis.

Drs. Holley and Khorana shared the prize with Dr. Marshall W. Nirenberg, National Heart and Lung Institute. Dr. Holley was supported by NIGMS from 1963-68; Dr. Khorana received support in 1963.

Other Nobelists Listed

Drs. Salvador Luria, Alfred Hershey, Max Delbruck (1969), for their discoveries concerning the replication mechanism and the genetic structure of viruses.

Dr. Luria received NIGMS training grant support from 1959-71; Dr. Hershey's research grant support was from 1967-70; Dr. Delbruck's from 1960-65.

Dr. Luis Leloir (1970), for his discoveries concerning the basic biochemical steps required for the enzymatic breakdown of sugar in the body and in the synthesis of glycogen and other starches. He received NIGMS grants from 1952-1970.

Drs. William H. Stein and Stanford Moore (1972), winners with Dr. Christian Anfinsen of the National Institute of Arthritis, Metabolism, and Digestive Diseases, for their contribution to the elucidation of basic principles relating the chemical structure of enzymes to their biological function. Their work has been aided continuously over the past 12 years by NIGMS and predecessor components.

'Proceedings' Provide Guidelines

Proceedings of the 1970 International Trauma Symposium, sponsored by NIGMS, were published in 1971.

They have provided a reference for the medical profession in establishing guidelines to improve care of accident victims.

NEW INSTITUTE

(Continued from Page 5)

etic code' to members of the Committee."

In 1964 Dr. Frederick L. Stone was appointed Director. Dr. Stone, now interim deputy administrator for the Health Services and Mental Health Administration, had left DGMS in 1962 to organize and administer the NIH Division of Research Facilities and Resources.

Commenting on the Institute's role, Dr. Stone said, "I saw it as . . . providing research support and graduate training predominantly in basic sciences as a major support element to the other institutes of NIH."

Research Training Cited

In Dr. Stone's estimation, the research training programs were clearly the most exciting and, nationally, the most valuable. Under his direction, genetics research and training became a unified effort which provided effective, timely support.

Dr. DeWitt Stetten, Jr., was appointed NIGMS Director in October 1970. Formerly dean of Rutgers Medical School, he was for many years a researcher, and was particularly interested in the Institute's cell biologic and genetics programs.

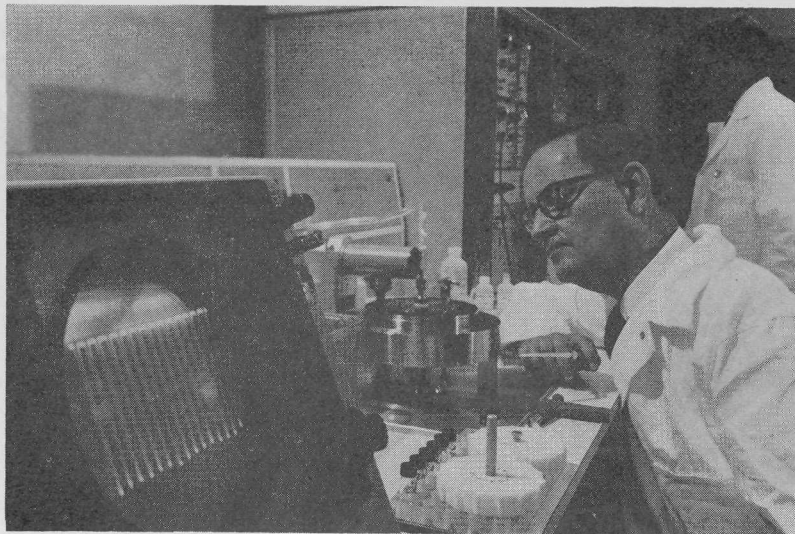


Dr. Clinton C. Powell

In the past year, Dr. Stetten has reorganized the Institute's cell biology program, now called the Cellular Basis for Disease Program, providing a stronger, more direct focus on cell and molecular pathologies.

"As we develop a more complete understanding of cellular and molecular disorders," said Dr. Stetten, "we can look to the emergence of a whole new basis for the practice of medicine."

"The future medical textbook may well include chapters on diseases of the mitochondria, of the microtubules, and of lysosomes. This may well be the medicine of the 21st century."



An analyzer called GeMSAEC, a new concept in automated chemical analysis, was a major research accomplishment developed under NIGMS support during the past decade. Dr. Norman G. Anderson, developer of the prototype system, operates the instrument at Oak Ridge National Laboratory.

7 Genetic Research Centers Exploring Inherited Disease Diagnosis, Treatment

A major milestone in the NIGMS Genetics Program was reached last June, when \$4.9 million in research grants was awarded to establish seven centers for research on genetic diseases.

Two centers are in New York, two in California, and one each in Texas, Maryland, and Washington.

Scientists at the centers are exploring the basic molecular nature of inherited disease and coupling this research with clinical studies of patients and members of their families.

Aims Outlined

It is estimated by medical authorities that some 12 million Americans are afflicted by one or another kind of inherited disorder.

Center researchers are working to increase the basic knowledge of human genetics while concentrating on the diagnosis, treatment, and prevention of a wide variety of inherited disorders.

Studies include investigations into bone and structural deformities, inherited blood diseases, metabolic deficiencies, and disease producing abnormalities of chromosomes.

Dr. Fred Bergmann, chief administrator for the genetics grant program, explained that there is a greater need for projects which encourage closer cooperation and collaboration among the basic and clinical biomedical disciplines.

Geneticists Pool Skills

Dr. Bergmann stated that many basic scientists who previously had worked on the genetics of lower organisms are pooling their skills with those of their more clinically-oriented colleagues.

This collaboration has resulted in such developments as the application of tissue culture techniques to the study of genetic disease.

Qualified scientific investigators

in the U.S. and abroad may use the facility of a NIGMS-sponsored mutant cell "library" established at the Institute for Medical Research in New Jersey.

There, human cell lines representing hundreds of inborn errors of metabolism are being acquired for propagation and distribution for further studies.

Dr. Bergmann also pointed out that there is need to study genetic factors in such diseases as diabetes, hypertension, atherosclerosis, and schizophrenia, all of which possess strong heritable components and occur with far greater frequency than the primary genetic diseases, such as Down's Syndrome (mongolism), phenylketonuria, and galactosemia.

Seek Prevention

"It is the hope of the NIGMS," he said, "that the more common and prevalent diseases with genetic components, now relatively intractable to genetic analysis, can ultimately be studied and prevented or ameliorated with the same tools now being developed for the rarer genetic diseases."

Another aspect of the NIGMS program, said Dr. Bergmann, involves the social, ethical, and legal aspects of genetics.

NIGMS recently awarded a grant to the Institute of Society, Ethics, and the Life Sciences in Hastings-on-Hudson, N.Y., for a 3-year study to explore issues which include privacy, informed consent, and freedom from coercion in genetic counseling and genetic screening.

Dr. Frederick L. Stone Discusses Procedures In Anesthesiology Field

"In anesthesiology research and training, the National Institute of General Medical Sciences will be a special kind of partner," explained Dr. Frederick L. Stone, when he was the Institute Director from 1964-70.

In discussing the Institute's commitment to research, manpower, and engineering development in anesthesiology, he said that such a commitment was necessary because 10,000 deaths a year in the United States were related to anesthesia, and most of the 25 million U.S. surgical procedures each year require anesthesia.

Also, there was an acute shortage of professional anesthesiologists, and advances in heart surgery and other complex operations were slowed for lack of new anesthesiology techniques.

Because of these facts, the Institute in 1965 called a conference on the "crisis in anesthesiology."

After that meeting, Dr. Emmanuel Papper, an eminent anesthesiologist and medical science administrator, was appointed special Institute consultant to blueprint a national plan for developing research and training to relieve the shortage of anesthesiologists.

In a concurrent action, Congress earmarked special appropriations for anesthesiology research and training centers.

The first award was granted to the University of Pennsylvania School of Medicine in 1967, the second to Harvard Med. School in 1968. Later, centers were also established at Columbia Presbyterian Medical Center and the University of Washington.

The goals at these centers and throughout the anesthesiology program are aimed toward the development of better and safer methods of anesthesia and pain relief and improvement in the care of surgical and obstetrical patients.



Dr. Frederick L. Stone

Engineering in Biology And Medicine Evolves Along Two Basic Lines

In 1963 NIGMS began a program on the application of principles and practices of engineering science to biomedical research and development.

Under Dr. James F. Dickson III, the Engineering in Biology and Medicine Program has developed along two principal lines.

One is the application of engineering sciences for the analysis of complex biological systems.

The other is the development of improved instruments, devices, and systems for research and the delivery of health care.

In this work, the program has struck a balance between research and applications for clinical care.

The program's research emphasis is placed on the application of mathematics, the physical sciences, and engineering to basic and applied biomedical research.

Here, special analytical skills of engineers are often combined with a life scientist's expertise in anatomy and physiology for study at both organ and cellular levels.

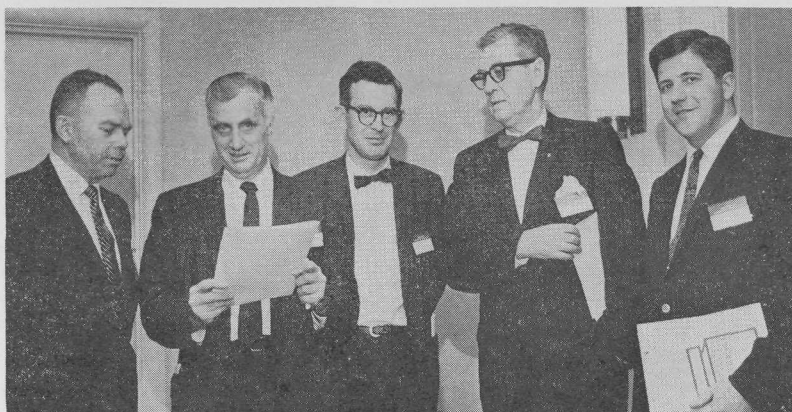
EBM also supports a wide variety of research grants and contracts aimed at the automation of clinical laboratory techniques.

Ultimately, a series of computer-controlled units with built-in quality control devices will be developed—easily adaptable to the needs of hospitals of all sizes.



Dr. Arno G. Motulsky, U. of Washington geneticist, demonstrates a blood-chemical test to identify the abnormal enzyme pseudocholinesterase in patients scheduled for surgery. The mutant enzyme jeopardizes the patients because they cannot metabolize succinylcholine, a muscle-relaxing drug. In Dr. Motulsky's test—developed under NIGMS support—a patient's blood is made to react with certain colored reagents. If the abnormal enzyme is present, the specimen may easily be identified by a gross color difference.

Program to Improve Drug Safety Starts In 1964; University Centers Established



Dr. Stone (l), former NIGMS Director; Dr. Bernard B. Brodie, former chief, NHI Laboratory of Chemical Pharmacology; Dr. David P. Rall, NIEHS Director; Dr. James A. Shannon, NIH Director from 1955 to 1968, and Dr. George J. Cosmides, program coordinator, NIGMS Pharmacology/Toxicology Program, participated in an international symposium convened in 1967 to discuss ways of improving safety and effectiveness of drugs.

In August 1964, Dr. James A. Shannon, NIH Director from 1955-68, authorized NIGMS to begin a new program to improve the safety and efficacy of drugs and to determine their modes of action in the body.

Dr. Shannon also instructed the Institute to establish university-based centers for research and training in pharmacology and toxicology.

The first center opened at the University of Iowa in May 1965, and today the NIGMS program includes 11 centers in 10 states.

Additional centers are at Emory University; the Universities of Michigan and Minnesota; Vanderbilt University, and the University of Kansas.

Others are at Baylor University; the University of Texas; the Medical College of South Carolina, and the University of California at Los Angeles.

Besides these centers, the Institute supports 11 other large-scale drug research projects and 40 smaller projects in which investigators carry on independent but complementary studies.

In the past decade, NIGMS grantees in the Pharmacology and Toxicology Program have:

- Shown in two discoveries that the concentration of a drug in the blood determines, essentially, its therapeutic effectiveness.

For example, one group of grantees found a 36-fold difference in the amount of imipramine (a well-known anti-depressant) which reached the blood of test patients even though the same dose was administered to each person studied.

Another team of investigators reported that in testing guanethidine, a potent drug to lower blood pressure, the effective dose varied from five to 400 milligrams.

These pioneering studies led to new concepts in prescribing drugs. Now, physicians more and more tailor drug dosages to the precise needs of individual patients.

- Been among the first to confirm the value of L-dopa in the treatment of Parkinson's disease.

- Reported important progress

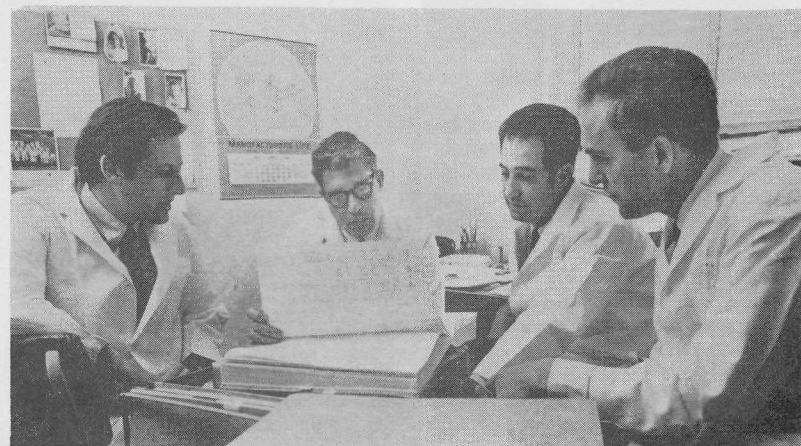
in the design of new drugs for the treatment of schistosomiasis—snail fever—the second most widespread tropical disease in the world.

- Employed the method of combined gas chromatography-mass spectrometry to isolate and identify for the first time the nerve chemical acetylcholine in brain tissues.

The pinpointing of this chemical in the brain marked an important step toward the development of more effective central nervous system drugs and is leading to more effective treatment of some mental disorders.

- Introduced a computerized surveillance program to quickly identify adverse drug reactions.

- Discovered that numerous drugs given to women during pregnancy may result in adult levels of



Scientists in the NIGMS-supported Boston Collaborative Drug Surveillance Program discuss the benefits of their computerized program used to quickly identify adverse drug reactions of some 14,000 patients in 15 hospitals. The researchers are (l to r) Drs. Samuel Shapiro, Hershel Jick, Dennis Slone, and George P. Lewis.

CELL FUNCTIONS

(Continued from Page 5)

as the cell wall or membrane, the ribosomes, microtubules, mitochondria, and the cell division spindle apparatus.

The medical significance of these cell components has begun to emerge.

In senile dementia, the microtubules of the nerve axon appear to be markedly altered in their structure; in a respiratory disease which affects newborn babies, transformed mitochondria have been implicated; a number of other diseases can be traced to defects and injuries in the cell wall.

The discovery that certain chemicals disrupt the spindle apparatus and hence interfere with cell division has led to their use as potent anticancer drugs.

Thus NIGMS's cellular basis for disease program is likely to make significant contributions to research progress.

the drugs in the fetus or the newborn infant.

The discovery exposed as myth the earlier concept that a "placental barrier" existed which protected infants from drugs or other chemicals ingested by mothers during pregnancies.

- Found that two common antacids, aluminum hydroxide and magnesium hydroxide, markedly modified blood levels of antimicrobial, antimalarial, and cardiovascular drugs.

Clinical trials are being conducted to determine whether these antacids—by increasing or lowering drug-blood levels of the other drugs—can cause toxic side effects to reduce therapeutic benefits.

These achievements have resulted from a coordinated effort in which NIGMS investigators have focused on age, disease, sex, heredity, environment, and seasons of the year as possible factors influencing the metabolism, safety, and effectiveness of therapeutic agents.

Dr. Harold J. Fournelle, NINDS Exec. Secretary, Retires After 23 Years

Dr. Harold J. Fournelle, executive secretary of a National Institute of Neurological Diseases and Stroke Research Training Committee, retired this month after 23 years with the Public Health Service.

Dr. Fournelle came to NINDS in 1970 from the Division of Research Grants' Microbiology Fellowship Review Committee, where he was the executive secretary for 8 years.

Prior to his DRG position, Dr. Fournelle worked for the Clinical Center's Environmental Services Branch Bacteriology Laboratory.

After he received his Ph.D. from the University of Minnesota, Dr. Fournelle entered the PHS in 1950 and was assigned to Alaska.

Dr. Fournelle speaks fondly of his 8½ years in the Alaskan bush country where he spent a great part of his time conducting bacter-



Dr. Fournelle, a Civil War history buff, wants "to see and study the Civil War sites in this area."

iology studies in Eskimo villages.

Later, Dr. Fournelle worked 2 years for the International Cooperation Administration in Columbia, South America.

While there he helped establish reference and diagnostic bacteriology laboratories for the Columbian National Institute of Health.

As for his retirement plans, Dr. Fournelle hopes to travel back to Alaska, and to play a lot of golf.

Section Renamed in NIAMDD

The Section on Diabetes and Intermediary Metabolism in NIAMDD's Clinical Endocrinology Branch has been renamed the Section on Diabetes to better reflect its scope and responsibilities.

Under the direction of Dr. Jesse Roth, the section plans and conducts research on the disease processes of diabetes, the mechanism of action and metabolism of insulin and related hormones, and the assay and physiology of other peptide hormones.

Workshop Held by DRR, DRS on Clinical Care Of Nonhuman Primates

The Animal Resources Branch, DRR, and the Veterinary Resources Branch, DRS, recently held a workshop on the Clinical Care of Nonhuman Primates.

For the first time a group directly involved with the medical care of nonhuman primates in research was brought together to discuss the problems of animal colonies and their solutions.

Topics included standardized terminology for monkey procurement, problems with transporting primates, personnel health programs, current infectious disease problems, anesthesia and surgical techniques, and outdoor housing: advantages and problems.

Veterinarians Attend

Forty-two veterinarians representing primate centers, research centers, and schools of medicine throughout the U.S. participated in the seminar. Opening remarks were delivered by Dr. William Goodwin of DRR.

Other participants from NIH were Drs. Herbert Amyx and William London of NINDS, and Drs. David Johnson, Amos Palmer, and George Pucak of DRS.

Elizabeth Brooks Retires From NIMH Lab Post

Elizabeth Brooks has retired from her position as a lab technician at the National Institute of Mental Health following 26 years of Federal service.

Mrs. Brooks first worked in the laboratory of Dr. Marian Kies at the Beltsville Agricultural Experimental Station from 1948 to 1951.

She came to NIMH in 1953 to work again with Dr. Kies, who heads the section on Myelin Chemistry in the NIMH Laboratory of Cerebral Metabolism.

Mrs. Brooks' keen interest in people was demonstrated in 1962 when she learned that families of Clinical Center patients from out of town were having trouble finding places to stay in the Washington area.

Rents Spare Room

She offered to rent a spare room in her apartment for relatives of patients and, as a result, made a number of lasting friendships.

Persons with whom Mrs. Brooks has shared her apartment hail from Florida, Pennsylvania, Alabama, and Virginia. Now that she has retired, long-standing invitations to visit these friends will be easier to accept, she said.

Over 40 friends and fellow workers who gathered for her retirement party at NIH presented Mrs. Brooks with a new television set. "That," she acknowledged, "is something I really wanted."

Dr. Ernest Allen Named NLM's Assoc. Director, Extramural Programs

Dr. Ernest M. Allen has been appointed associate director for Extramural Programs at the National Library of Medicine.

Since January 1970, Dr. Allen has served as Deputy Assistant Secretary for Grant Administration Policy in the Office of the Assistant Secretary, Comptroller, HEW.

He will administer the Library's Extramural Programs of grants and contracts.

The programs were established to improve biomedical services by making funds available for construction of facilities, training in medical library sciences, and the establishment of regional medical libraries.

Dr. Allen has been with HEW in grants administration policy affairs and public health administration for three decades.

Background Noted

He began his career with the Public Health Service in 1943.

He has served as assistant chief and then chief of the Division of Research Grants. For this contribution to public health administration, Dr. Allen accepted the 1953 Lasker Award of the American Public Health Association on behalf of the Division.

Later, he was named NIH Associate Director.

Dr. Allen graduated from Emory University in 1926, and received his master's degree from Emory in 1937.

In 1956, Emory awarded him an honorary Doctor of Science degree in recognition of his "distinguished service to medical research."

Culp Heads NEI Branch And Cooke Takes Post Of Budget Officer



Mr. Culp



Mr. Cooke

James G. Culp has been appointed chief of the National Eye Institute's Contracts and Grants Branch, and Kenneth O. Cooke is replacing him as budget officer.

Both Mr. Culp and Mr. Cooke have served in NIH's management intern program.

Mr. Culp, a graduate of Pennsylvania State University, received his M.A. degree from the University of Maryland. He came to NIH in 1966, and worked at the National Cancer Institute before becoming NEI budget officer in 1970.

That same year he received the HEW Sustained Superior Performance Award.

Mr. Cooke, who joined NIH in 1967, attended Niagara University and St. Vincent's College.

He served as administrative assistant in the Office of the Associate Director for Administration, OPM, and was a budget analyst at the National Institute of Child Health and Human Development prior to his present appointment.

He received an honorary LL.D. from Clemson University in 1968, and a DHEW Distinguished Service Award in 1971. Other honors include the Yorktown Medal of the French Government.



Certificates of Appreciation from the Surgeon General of the Army were recently presented to the Division of Dental Health, BHME, and to the DDH Dental Manpower Development Center located in Louisville, Ky. Maj. Gen. Edwin H. Smith, Jr., Assistant Surgeon General for Dental Services, U.S. Army (c), presents the awards to Dr. John C. Greene (l), DDH Director, and Dr. Edward M. Campbell, Director of the Center. The citations were for "outstanding service to the United States Army Medical Department."

Prof. Henryk Eisenberg, Fogarty Scholar, Arrives

Prof. Henryk Eisenberg, chairman of the Department of Polymer Chemistry, Weizmann Institute of Science, Rehovot, Israel, arrived today (March 13) to take up residence as a Fogarty Scholar.

A graduate of Hebrew University, Dr. Eisenberg received his Ph.D. degree in physical chemistry there. Since then he has made several visits to the United States.

He spent a year with Prof. R. M. Fuoss at Yale; was a visiting fellow at the Mellon Institute in Pittsburgh; a visiting professor at Clarkson College, and during 1965-66 a visiting scientist at NIH.

Prof. Eisenberg's research interests include the physical chemistry of water soluble synthetic polyelectrolytes and biological macromolecules (nucleic acids and enzyme systems) as well as the structure of water and other pure liquids.

He has written extensively in the fields of viscosity, mechanochemistry, conductivity, refractive index, light scattering, phase separation, potentiometry, sedimentation, and thermodynamic analysis of multicomponent systems.

While here Prof. Eisenberg plans to complete work on a book entitled *Thermodynamics of Solutions of Biological Macromolecules* in addition to other review articles.

He will also confer with col-



Prof. Eisenberg will present several lectures, the first of which is scheduled for March 16 in the lecture series on Current Topics in Biochemistry.

leagues who are conducting research on biological problems of concern to him.

Prof. Eisenberg is residing in Stone House, where he will be joined by his wife in early June. He will remain here through mid-September.

Ah, spring, the season when you find out that the chap with a week's seniority picked the two vacation weeks you wanted.—*Changing Times*.

Severe Facial Pain Caused by Stress Responds to Many Diverse Treatments

Severe facial pain—which is often accompanied by jaw clicking and limited jaw movement—is extremely distressing to its sufferers and, unfortunately, often puzzling to dentists and physicians. The condition is called myofascial pain-dysfunction (MPD) syndrome.

Now, a University of Illinois Medical Center team, aided by a National Institute of Dental Research grant, has evolved a theory explaining the cause of the condition.

When there is no pathology in the joint hinging the jaw to the

DR. SHERMAN

(Continued from Page 1)

and academic institutions of higher learning and research.

"His broad expertise is respected and valued by leaders at all levels of government who have learned to seek his counsel.

"His comprehensive knowledge of the ways of government are invaluable as a resource and pillar upon which NIH program planning and development rests.

"His achievements in the broad field of science administration demonstrate his untiring efforts toward the advancement of the mission of the NIH and the Department."

Dr. Sherman will receive the award on May 4 at a dinner sponsored by the League in the Washington Hilton Hotel.

The last time an NIH employee received the Civil Service League Award was in 1962. The recipient was Dr. Howard B. Andervont, who has since retired from the National Cancer Institute.

Primates' Research Role Described in New Book

An illustrated book for scientists, *Nonhuman Primates and Medical Research*, has been published by the Academic Press.

It was edited by Dr. Geoffrey H. Bourne, Director of the Yerkes Primate Research Center, Atlanta, Ga. The center is supported by the Animal Resources Branch, Division of Research Resources.

The 538-page book describes in detail not only the role primates have played in studies in conquering diseases like yellow fever and malaria, but also their part in the attack on heart disease, cancer, and degenerative diseases.

In addition, it discusses the use of primates in general biomedical research involving neurology, learning performance, and human evolution.

A final section on the NIH Primate Research Centers Program is partially based on the booklet produced by DRR entitled, *NIH Primate Research Centers: A Major Scientific Resource*.

skull, the investigators believe pain generally comes from habitual tooth grinding and clenching in response to life's stresses. Such oral habits produce muscle spasms, wear away cusps on the grinding surface of teeth, and even can force teeth out of alignment.

Recent reports from the Illinois Center include one showing that in laboratory tests MPD patients respond to physical and emotional stress by clenching their teeth, whereas other people are more likely to react with increased heartbeat and other signs.

Dr. Daniel M. Laskin's team also has shown that many patients are helped by a muscle-relaxing and tranquilizing drug, by occlusal splints, and even by placebos (harmless, unmedicated pills) and by non-functional splints.

Explanation Helps

All treatments worked best when the doctor took time to explain the cause of the painful syndrome and when he enthusiastically endorsed a remedy.

The patient's understanding of the problem and expectation of relief seem to reduce psychic tension and thereby break the cycle of tension, clenching, spasms, and pain.

Earlier, this team showed that from 30 to 45 percent of the patients with MPD can benefit from placebos prescribed in the non-committal fashion typical of double blind studies.

In contrast, they recently found that when they explained the cause of the syndrome and enthusiastically endorsed a sugar pill named "Myolax," 52 percent of the patients (26 of 50) improved; eight improved enough to be phased out of the program.

Treatment Changed

The 24 patients not helped by the placebo were switched to other treatments after one week, Drs. Laskin and Charles S. Greene report in the October 1972 *Journal of the American Dental Association*.

In March, Drs. Greene and Laskin reported in the same journal that splints helped 87 percent of their patients. While the majority benefited from functional splints, 40 percent (28 of 71 patients) improved after wearing a splint which did not alter occlusion.

Splints appear to benefit patients not only by changing habitual neuromuscular patterns of the jaw

Dr. Ruth J. Hegyeli, James Grodsky Named NHLI Branch Chiefs

Dr. Ruth Johnson Hegyeli and James W. Grodsky will head two newly created branches in the National Heart and Lung Institute's Office of Program Planning and Evaluation.

As chief of the Program Development and Evaluation Branch,



Dr. Hegyeli



Mr. Grodsky

Dr. Hegyeli will advise Dr. Theodore Cooper, NHLI Director, on new research areas and report on the status of ongoing programs.

She will arrange special advisory groups and services and will coordinate the Institute's international scientific exchange programs.

Mr. Grodsky will develop techniques for planning and for evaluating current NHLI activities as chief of the Systems Analysis and Planning Branch. He will also recommend ways to make these programs more effective.

A native of Stockholm, Sweden, Dr. Hegyeli received her B.A. and M.D. degrees from the University of Toronto.

Wins Special Award

She won an Outstanding Scientist Award in 1968 while on the staff of the Battelle Memorial Institute, Columbus, Ohio.

The following year she came to NHLI as a medical officer in the Artificial Heart Program, after which she served as a medical officer in the Program Planning and Evaluation Branch until her present appointment.

Mr. Grodsky received his B.S. degree with honors from Georgia Tech in 1943. He later attended George Washington University, where he earned his M.A. degree in business administration in 1969.

When he joined the NHLI staff last year, Mr. Grodsky had had more than 25 years of experience in management of research and development projects with the Department of Defense.

muscles and jaw and tongue positions, but also by the psychological effects they produce.

The fact that a considerable number of MPD patients are helped by many diverse treatments suggests that the people are responding to such intangibles as the doctor's sympathetic attention and his faith in the remedy he prescribes.

Dr. Leake Dies at 91, Former PHS Officer And NIAID Researcher

Dr. James P. Leake, co-discoverer of the present method of smallpox vaccination, died Feb. 21, at the National Naval Medical Center in Bethesda. He was 91.

For some years Dr. Leake was a researcher in the office that is now part of the National Institute of Allergy and Infectious Diseases.

He was the co-developer in 1921, with Dr. John N. Force, of the multiple pressure method for smallpox vaccination. Still the accepted practice, this method minimizes reactions and scarring and increases the percentage of successful vaccinations.

His *Questions and Answers on Smallpox Vaccination*, published in 1927, is still an authoritative manual on vaccination methods.

Dr. Leake attended Harvard University and Harvard School of Medicine. In 1909, he entered the U.S. Public Health and Marine Hospital Service, which was renamed the Public Health Service in 1912.

After serving as staff physician at several PHMHS stations, Dr. Leake was transferred in 1912 to the Hygienic Laboratory in Washington, D.C., predecessor to NIH. There, he started his career in the fields of control of biologic products, vaccine research, and epidemiology.

From 1929 to 1937, he served with the U.S. Relief Station, Office of Industrial Hygiene and Sanitation, Division of Sanitary Reports and Statistics, and Scientific Research Division, all in the PHS.

In 1937 he returned to NIH as officer-in-charge, Office of Cooperative Studies, now part of NIAID.

Although Dr. Leake retired from PHS in 1945 as a medical director, he continued to testify on health matters before several Congressional committees.



Dr. Leake's book, which answers questions on smallpox vaccination, was published in 1927. It continues to be considered an authoritative source.

Special Committee to Advise on, Review Equal Opportunity Programs



Dr. Sherman (c) is flanked by co-chairmen, Dr. Fenninger (l) and Mr. Laster (r), and members of the special advisory committee to review NIH efforts to provide equal opportunity.

Evidence Found in Platelets May Identify People Vulnerable to Schizophrenia

A team of psychiatrists at the National Institute of Mental Health has found evidence in blood platelets that may identify some persons who are vulnerable to schizophrenia, the mental disorder affecting two million persons in the United States alone.

Dr. Richard J. Wyatt and Dr. Dennis L. Murphy and four other NIMH scientists tested blood platelets for the enzyme mono-

amine oxidase in 13 sets of identical twins.

Initially, the researchers had found that the enzyme activity was lower in schizophrenic patients than in normals or in other psychiatric patients.

In each set of twins, one was schizophrenic while the other never had schizophrenic symptoms. It was hypothesized that if the schizophrenic twin had lowered enzyme activity and his non-schizophrenic co-twin did also, the defect probably was genetically determined.

Alternatives Described

On the other hand, if the enzyme activity was reduced only in the schizophrenic twin, the altered activity would be more likely to represent a non-specific effect of the schizophrenic disorder, such as a change resulting from chronic hospitalization, dietary differences, or drug treatment.

Monoamine oxidase, an important enzyme involved in nervous system chemistry, was found to be significantly lower in the platelets of both members of these sets of twins.

Findings Useful

The NIMH scientists believe that this phenomenon may be a useful "genetic marker" showing vulnerability for schizophrenia.

The finding also may provide the diagnostician with an additional clue in this difficult-to-identify condition.

Since there are normal persons with the defect, however, as well as schizophrenic patients without, it does not absolutely predict who will and who will not have the illness.

It is also not known if the abnormality, thus far demonstrated

A special 22-member committee has been appointed by Acting Director Dr. John F. Sherman to advise on NIH equal opportunity programs and to help guide a full-scale review of these programs.

The review is an outgrowth of a conference last summer at which a number of employees expressed dissatisfaction with the way NIH was organized to advance the cause of equal opportunity.

Co-chairmen of the committee are O. H. Laster, training officer, NCI, and Dr. Leonard Fenninger, Associate Director for Manpower.

Members Listed

Committee members include: Dr. Benjamin Alexander, DRR; Evelyn Attix, NHLI; Theodore Blakeney, NICHD; Harvey Bullock, OCG, ADA, and Dr. Freda Cheung, OPM, ADA.

Also, Phyllis Campbell, BHME; Elizabeth Crichton, OPM; Ruth Crocker, BHME; J. G. DuBay, DRS, and Sol Del Ande Eaton, NCI.

Dr. Donald Fredrickson, NHLI; Thelma Gaither, NIAID; Hester Jackson, NCI; Dr. David F. Johnson, NIAMDD, and Herbert Keene, OES, ADA.

Also, Alice Ladson, NCI; Walter Moten, CC; George Russell, NICHD; Gene Spruill, OPM, ADA, and Arthur Thomas, BHME.

The deliberations are confined to committee members, but visitors are welcome as observers, limited only by the size of the conference room.

Meetings are held each Monday morning at 10:30 a.m. In addition, the committee will hold open meetings from time to time to report to the NIH community as a whole.

only in platelets, is present in other parts of the body or if it is directly related to or only found in association with illness.

In addition to Drs. Wyatt and Murphy, the members of the research team are Drs. Robert H. Belmaker, Stephen Cohen, and William Pollin, and Cynthia H. Donnelly.

Their report appears in the March 2 issue of *Science* magazine.

History of Medicine Society Honors Morris C. Leikind

A meeting of the Washington Society for the History of Medicine will take place tonight (Tuesday, March 13) at 8 in the Billings Auditorium, National Library of Medicine.

Morris C. Leikind, co-founder of the society and its first president, will be given a certificate of appreciation.

After the presentation, Dr. Harris L. Coulter will talk on Homeopathic Medicine in the 19th Century.

TV Special to Feature NIGMS Grantee's Work

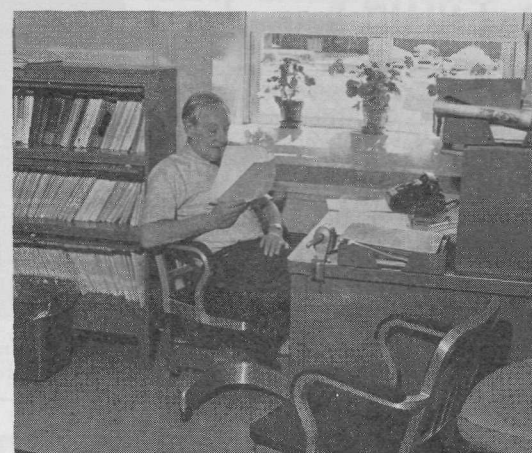
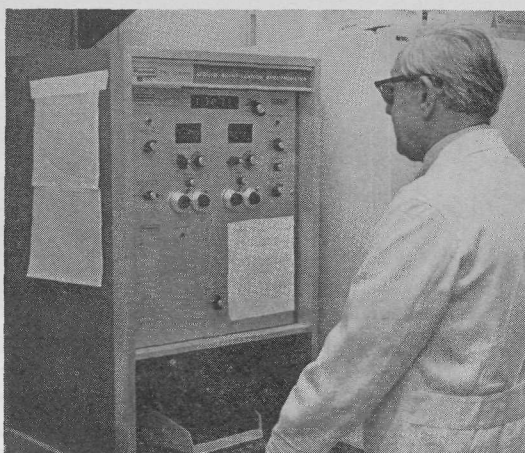
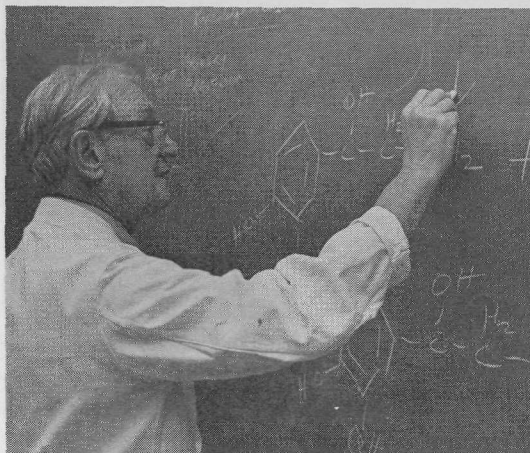
NIGMS-funded research to detect early changes in respiratory function will be featured in a television documentary on Friday, March 16, at 10:30 p.m., on WMAL-TV, Channel 7 in Washington.

The one-hour program, "What About Tomorrow," is narrated by ABC newsman Harry Reasoner and produced by science editor Jules Bergman.

The respiratory instrumentation system was developed by Dr. Richard Peters, a grantee in the NIGMS biomedical engineering program, working at the University of California in San Diego.

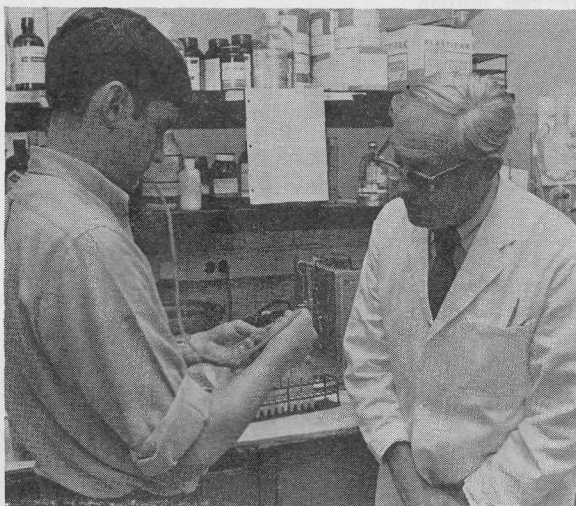
The treatment of children with respiratory distress syndrome will be demonstrated at the university's new pediatric intensive care unit.

Nobel laureate, young scientists work side by side



At a seminar with younger scientists in his section, Dr. Axelrod is often at the blackboard reviewing the complicated chemistry of catecholamine reactions in nerve fibers. Later, the Nobelist checks computerized tabulations at the console of the laboratory's liquid scintillation spectrometer. Evidence is being sought on

the ways enzymes that cause adrenal change are linked to chromosomes. Dr. Axelrod spends much time at his desk writing and reviewing manuscripts reporting the work of his laboratory. He keeps informed on related research developments by reading articles in the nerve and brain chemistry fields.



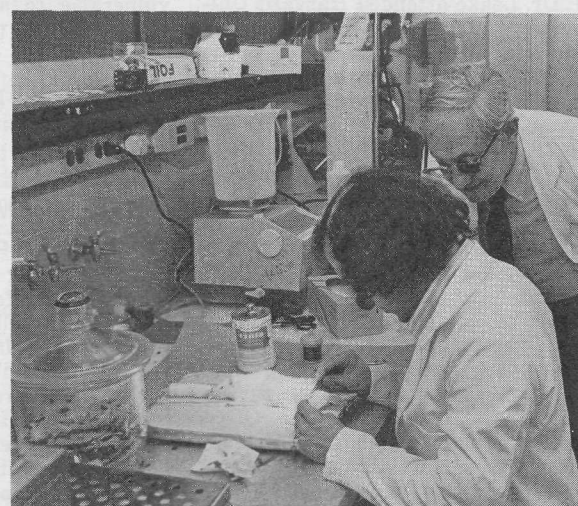
In another area of Dr. Axelrod's laboratory, Dr. Fred Wooten measures changes of nerve enzymes in the blood. Dopamine Beta Hydroxylase and other enzymes are altered by stress, drugs, and certain neurological diseases.

Dr. Julius Axelrod, who shared the 1970 Nobel Prize for Physiology or Medicine with Drs. Ulf von Euler and Bernard Katz, is chief of the Section on Pharmacology in the Laboratory of Clinical Science at the National Institute of Mental Health, HSM-HA.

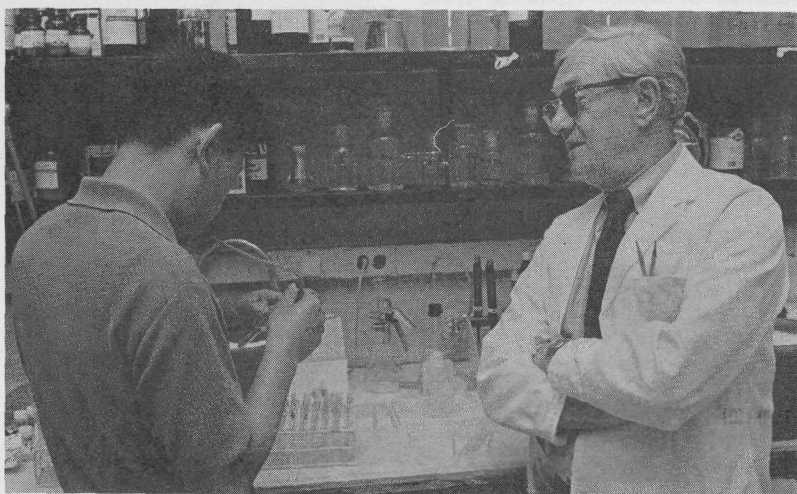
The Nobel Prize was awarded to Dr. Axelrod for discovering the mechanism of action of nerve cells in the manufacture, storage, release, and re-uptake of norepinephrine.

Working side by side with his staff of dedicated young scientists in Bldg. 10, Dr. Axelrod continues his research interests at the frontier of knowledge in the sympathetic nervous system.

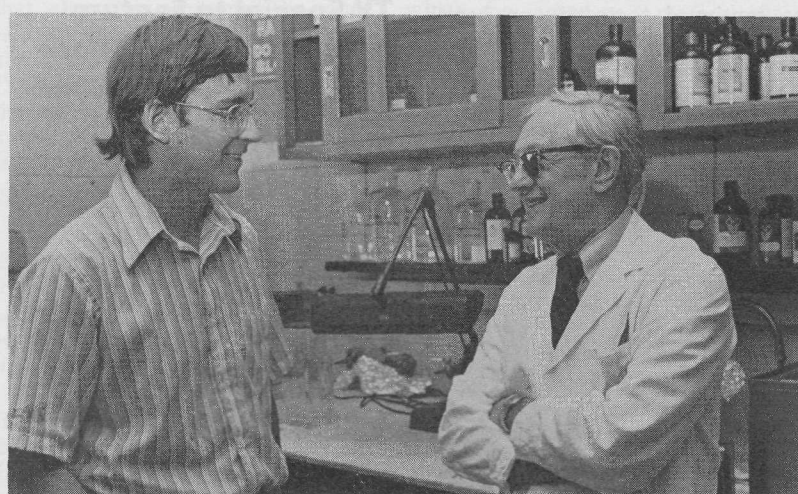
Photos by Nilo Qlin



Dr. Axelrod closely observes as Dr. Joseph Coyle, a research associate in the section, prepares for a critical maneuver in a study of the transport of specific proteins down the nerve pathways of a laboratory rat.



While discussing a technique employed in the study of pineal glands, visiting scientist Dr. Takeo Deguchi and Dr. Axelrod consider the high concentration of sympathetic nerves in the gland as a likely source of information about ways in which cells respond to stimulation.



Studies related to drug effects are of interest to Dr. David Kreuz. In his work with Dr. Axelrod, he has observed that tetra-hydrocannabinol, an active marijuana ingredient, persists in body fat. Research has also been aimed at new means to identify amphetamines in blood.